

at previously tolerated blood concentrations. Lithium can be given in combination with diuretics if blood concentrations are measured frequently during initiation and adjustment of diuretics. Lithium may increase the potential for digitalis toxicity by lowering intracellular potassium levels; thus, careful monitoring of electrocardiograms should be carried out during stabilization periods. Lithium use is contraindicated during pregnancy and for women who are breast-feeding.

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REFERENCES

- Ananth J, Gold J, Ghadriran AM, et al: Long-term effects of lithium carbonate on cognitive functions. *J Psychiatry Treat Eval* 1981; 3:551-555
- Cooper TB, Simpson GM: The 24-hour lithium level as a prognosticator of dosage requirements: A 2-year follow-up study. *Am J Psychiatry* 1976 Apr; 133:440-443
- Johnson FN: *Handbook of Lithium Therapy*. Baltimore, University Park Press, 1980
- Ramsey TA, Cox M: Lithium and the kidney: A review. *Am J Psychiatry* 1982 Apr; 139:443-449
- Vestergaard P, Amdisen A, Schou M: Clinically significant side effects of lithium treatment—A survey of 237 patients in long-term treatment. *Acta Psychiatr Scand* 1980 Sep; 62:193-200

Sleep Disorders Medicine: A New Subspecialty

SLEEP DISORDERS MEDICINE has recently emerged as a new subspecialty. Nearly 100 sleep disorder centers have already been established in hospitals throughout the United States. Certified sleep disorder specialists (clinical polysomnographers) drawn from pulmonary medicine, neurology, cardiology, psychiatry, psychology and other fields offer comprehensive medical and psychiatric evaluation and treatment for a wide variety of clinical problems. A few disorders are as follows.

Excessive Daytime Sleepiness

Patients with excessive daytime sleepiness (EDS) show a persistent propensity to fall asleep at times when they wish to remain awake. Two major diagnoses should be considered: narcolepsy and obstructive sleep apnea. Narcolepsy is associated with cataplexy, consisting of brief episodes of objective muscle weakness usually precipitated by emotional arousal. It is found equally in men and women and usually begins during the late teenage years and early 20s. In contrast, patients with obstructive sleep apnea have hundreds of episodes during the night when effective respiration ceases because of upper airway obstruction. It is usually associated with profound snoring and occurs most frequently in obese middle-aged men. The symptoms of excessive daytime sleepiness may be related to the metabolic and blood gas abnormalities associated with prolonged, repeated apnea. Patients with both forms of this disorder fall asleep quickly in the sleep laboratory during daytime and nocturnal recordings.

Narcoleptic patients usually enter rapid-eye-movement (REM) sleep immediately on falling asleep. Patients who have sleep apnea show numerous episodes of apnea and may have severe, life-threatening periods of hypoxemia, hypercapnea, pulmonary and systemic hypertension and cardiac arrhythmias during apneic

episodes. Once the diagnosis is established, relatively successful therapies are available for both forms of sleep disorder.

Major Depressive Disorders

Most depressed patients have insomnia, though a few have hypersomnia. More recently it has been found that many depressed patients show rather specific abnormalities of sleep, including a loss of stage 4 sleep (an electroencephalographic category) and a shortened REM latency (the elapsed time from sleep onset to the first REM period). These findings have stimulated considerable research into biologic factors in affective illness. The clinical usefulness of sleep laboratory investigations of depressed patients is currently being studied in such areas as differential diagnosis, assessment of severity and prediction of response to treatment.

Impotence

The differentiation of psychogenic and organic factors is an important consideration in the management of impotent patients. Because every normal man has full erections in association with REM periods, all-night-sleep laboratory recordings of sleep and nocturnal penile tumescence provide valuable information to clinicians who must decide whether to treat a patient psychiatrically, medically or surgically. During REM periods, it is possible to measure changes in penile circumference that occur with erections and, on awakening, to measure rigidity. Patients with organic impotency show little or no evidence of an objective erection during several nights in a sleep laboratory and are candidates for a penile prosthesis or a vascular operation.

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REFERENCES

- Gillin JC, Duncan W, Pettigrew KD, et al: Successful separation of depressed, normal, and insomniac subjects by EEG sleep data. *Arch Gen Psychiatry* 1979 Jan; 36:85-90
- Guilleminault C: *Sleeping and Waking Disorders: Indications and Techniques*. Menlo Park, Calif, Addison-Wesley, 1982

Neuroleptic Malignant Syndrome

THE NEUROLEPTIC MALIGNANT SYNDROME appears in patients being treated with antipsychotic medication and is characterized by fever, muscular rigidity, altered consciousness and autonomic dysfunction. Although the syndrome is considered rare, it is recently being reported with more frequency in the United States. Usually seen in men younger than 40 years, it has been reported in patients with various psychiatric diagnoses. Neuroleptic malignant syndrome has also been reported to occur with the administration of most major families of neuroleptic drugs, most often in therapeutic doses. It is seen less frequently with other psychotropic agents that are given either alone or in combination.

The syndrome usually resolves spontaneously when the offending neuroleptic agent is discontinued and does not always reappear when the causative agent is readministered. It is also not related to the duration of drug administration. Laboratory evaluation shows nonspecific

cally abnormal findings, including an elevated creatine kinase, raised liver enzyme levels and diffuse slowing seen on the electroencephalogram. No structural abnormalities in the central nervous system have been found in autopsy studies. Death occurs in 20 percent of the cases—usually due to respiratory failure—and 50 percent of these have been related to the use of long-acting phenothiazines. Other serious complications include thromboembolism, aspiration pneumonia, cardiovascular collapse, renal failure and irreversible brain damage.

The underlying causative physiologic mechanism of this disorder is unknown, but speculation relates it to dopamine blockade in the basal ganglia and hypothalamus. Predisposing factors may include organic brain disease, dehydration or physical exhaustion.

Although there have been scattered reports of treatment success with antiparkinsonian agents, there is currently no known treatment that can reverse the syndrome in most cases. Palliative measures include cessation of administration of the neuroleptic agent and supportive medical care. Because the most effective treatment, then, is prevention, clinicians should prescribe neuroleptic medication only when the benefits outweigh the risks in a psychotic patient.

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REFERENCES

- Caroff SN: The neuroleptic malignant syndrome. *J Clin Psychiatry* 1980 Mar; 41:79-83
- Henderson VW, Wooten GF: Neuroleptic malignant syndrome: A pathogenetic role for dopamine receptor blockade? *Neurology (NY)* 1981 Feb; 31:132-137
- Smego RA Jr, Durack DT: The neuroleptic malignant syndrome. *Arch Intern Med* 1982 Jun; 142:1183-1185

Underdiagnosis of Bipolar Disorder: Causes and Implications

NUMEROUS STUDIES, especially during the past decade, have resulted in redefining the criteria for differential diagnosis of various psychiatric disorders, especially for distinguishing the major affective disorders from the schizophrenic disorders. Observations suggest, however, that clinical practice does not yet fully reflect these redefinitions, with cases of bipolar disorder, especially the manic type, continuing to be diagnosed and therefore treated as schizophrenia. The consequences of such a misdiagnosis are several and can be tragic: (1) there is greater social stigma attached to the label of "schizophrenia" than to "bipolar disorder" (manic-depressive disorder), (2) there are poorer prognostic implications of a diagnosis of schizophrenia and a more negative effect on a patient, the family and treatment personnel (that is, "Once a schizophrenic, always a schizophrenic") and (3) often treatment is with agents that are less effective and have the potential for more both short-term and long-term deleterious effects.

Multinational studies in Western Europe have established an approximate 1:1 ratio of schizophrenia to bipolar disorder among hospital admissions. This ratio

was confirmed by a study in the United States and Great Britain, indicating that the actual patient types did not differ in the two countries. Various studies have shown, however, that American psychiatrists have diagnosed schizophrenia as much as 8 to 12 times as frequently as bipolar disorder. Recent data from California suggest that underdiagnosis of affective disorder relative to schizophrenia is continuing, though the trend is toward the 1:1 ratio.

Pertinent to the underdiagnosis of bipolar disorder in this country has been the adage "even a trace of schizophrenia is schizophrenia," supported by a diagnostic approach that has relied on a cross-sectional view of signs and symptoms. The *Diagnostic and Statistical Manual of Mental Disorders, 2nd Ed*, which was in use until 1980, used such slice-in-time descriptions and additionally required that for a diagnosis of affective reaction any disturbance of thought or behavior must be consonant with the primary disorder of mood. Therefore, the presence of any mood-incongruent psychotic features excluded the diagnosis of an affective disorder. Subsequent to this edition, research has clarified the nonspecificity of many of the "schizophrenic" symptoms, including mood-incongruent hallucinations and delusions, thought disorder and catatonia. The entire range of "schizophrenic" symptoms has been noted in 20 percent to 50 percent of both manic and depressed patients. The presence or absence of affective symptoms, the family history (for schizophrenia and affective disorder particularly), the premorbid personality and the course of illness are more specific diagnostic indicators. Age of onset is not the differentiating criterion once thought; it is now recognized that bipolar disorder can occur in childhood and adolescence and that such cases tend to have a higher genetic loading and a less favorable course.

The third edition of the above-mentioned manual, now in use, provides specific diagnostic criteria, rather than cross-sectional descriptions, and incorporates many of the findings of recent research in the criteria for distinguishing the schizophrenic disorders and the affective disorders. The trend in the California findings may well reflect increasing familiarity with these criteria. A category of schizoaffective disorder remains, without diagnostic criteria, for those instances in which a clinician is unable to make the differential diagnosis with any degree of certainty; it is not, however, as was formerly the case, included among the schizophrenic disorders but under a new category of "psychotic disorders not elsewhere classified." Such instances emphasize the need for careful diagnostic evaluation as an ongoing process.

In those instances in which the differentiation between a schizophrenic illness and an affective illness featuring manic symptoms is not clear, it is appropriate to institute a trial of lithium carbonate treatment. Such is particularly the case when response to neuroleptics is not satisfactory. The duration of such a trial, barring the development of adverse reactions, should be at least a month at adequate serum concentrations. Research